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FOR: Cheek Path Airway and Cheek Pouch Anchor

APPELLANT'S REPLY TO EXAMINER'S ANSWER

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## INTRODUCTION.

The Examiner's Answer radically changes the Examiner's theory of anticipation and obviousness by severing Cameron's coil (6) from Cameron's teeth-engaging plates (7). In each and every rejection for anticipation and obviousness the Examiner's Answer now relies for anticipation solely upon the *severed* coil (6) and arms (5) of Cameron (US Patent 1,389,436; the Cameron '436 Patent). The Examiner's fundamental change of theory effectively re-opens many issues and necessitates a new, detailed, thorough response in this Reply. Appellant's strong preference is to address these new issues head-on in this Reply, without remand for further prosecution. This is because prosecution already has consumed seven years with repeated assertion and abandonment of theories by the Examiner, repeated re-searching, and a prior appeal.

The Examiner's Answer does concede some issues raised in Appellant's Opening Brief.

This Reply is stated in two parts. The first part is a detailed response to the Examiner's new theory. The second part is a more traditional reply on each of Issues 1 - 15 that were stated in Appellant's Opening Brief.

## ISSUES CONCEDED IN THE EXAMINER'S ANSWER.

The Examiner's Answer concedes the following issues:

The Examiner expressly withdraws all reliance on Liou (US Patent 6,273,713) as anticipating prior art. This reduces the issues by nearly half.

Issues 1.1 and 1.2. The Examiner accepts Applicant's special definition in the Specification of the term "User's cheek pouch". This includes particularly a concession that Applicant's definition excludes from a "user's cheek pouch" the occlusal (biting), interstitial, and tongue-adjacent surfaces of the user's teeth. This concession led to the major change in the Examiner's rationale for anticipation and obviousness whereby he severed Cameron's teeth-engaging plates (7).

Issues 3 - 5. The Examiner has not disputed the common knowledge that hard teeth can sustain greater pressures than can soft tissues of a user's cheek pouch.

However, the Examiner's Answer continues to dispute other aspects of these Issues 3 - 5.

1 Issue 3.6. The Examiner concedes that Cameron's coil (6) and arms (5) cannot "fit within  
2 two cheek pouches".

3

4 Issue 6.1. The Examiner's Answer concedes that Cameron's plates (7) affirmatively prevent  
5 a user's jaws from fully closing. This is one of the reasons the Examiner's new theory severs  
6 plates (7) from Cameron's coil (6) and arms (5).

7

8 Issue 7. The Examiner's Answer expressly withdraws the argument that Applicant's use of  
9 the phrase "adapted to ..." in a claim is improper. Although the Examiner never specified the  
10 particular claim to which he addressed this argument, it probably was claim 37..

11

12 Issue 8. The Examiner's Answer does not dispute that all rejections for anticipation and  
13 obviousness must fail if Cameron's coil (6) and arms (5), when severed from plates (7), fail to  
14 anticipate Applicant's claimed cheek pouch anchor.

15

16 Issue 9. The Examiner's Answer acknowledges a typographical error in the grounds of  
17 rejection of claim 45, and confirms that the rejection is under § 103(a) as being unpatentable over  
18 Cameron in view of Rodriquez.

19

20 Issue 14.1. The Examiner's Answer concedes that the simplicity of the solution to a problem  
21 does not defeat patentability; complexity is not a requisite for patentability.

22

### 23 SUMMARY OF REPLY.

24 The Examiner's Answer states a new theory in which the Examiner severs Cameron's teeth-  
25 engaging plates (7). The Examiner's Answer relies exclusively on Cameron's *severed* coil (6)  
26 and wire arms (5) for every rejection for anticipation under 35 U.S.C § 102. The Examiner also  
27 relies upon Cameron's severed coil and arms for every rejection for obviousness under 35 U.S.C.  
28 § 103. All rejections for anticipation and obviousness fail because Applicant's specific claim  
29 limitations do not read on Cameron's ***severed*** coil (6) and arms (5).

30 By severing Cameron's plates (7), the Examiner effectively has conceded that Applicant's  
31 claims do not read on Cameron's whole device. His new theory attempts unsuccessfully to read  
32 the claims on only the severed coil and arms of Cameron.

33 Cameron's teeth-engaging plates (7) teach away from Applicant's inventive insight to

1 eliminate teeth-engaging elements and size the anchor to fit within a user's cheek pouch. The  
2 Examiner's new theory, to modify Cameron by severing Cameron's plates (7), improperly reads  
3 Applicant's teaching into Cameron through hindsight.

4 After the Examiner severs plates (7), Cameron's device becomes incapable of operating in  
5 the mode intended by Cameron where retractive force is delivered to the jaws through hard teeth.  
6 Cameron's plates (7) perform two functions essential to the intended operation of Cameron's  
7 retractor:

- 8 (i) plates (7) transmit and receive expansive and compressive forces between Cameron's  
9 coil and the patient's teeth and jaws, and
- 10 (ii) plates (7) fix the orientation of Cameron's coil and arms relative to the patient's mouth,  
11 providing some control over the six modes of rotation and translation identified in Applicant's  
12 Specification at ¶ [0058 - [0063].

13 The Examiner's severance of plates (7) eliminates these essential functions because Cameron's  
14 arms (5) no longer bear upon the patient's hard teeth.

15 The Examiner improperly views the applicable field of art too narrowly by limiting it to the  
16 mechanical design of springs, which the Examiner views as a predictable art. Applicant  
17 traverses the Examiner's incorrect, silent assumption that the interaction of mechanical springs  
18 with living, tender, soft tissue of a user's cheek pouch is a predictable art. The Examiner has not  
19 even attempted to discharge his burden to show that it is a predictable art.

20 Using his unstated, incorrect assumption that the interaction of springs with soft tissue is a  
21 predictable art, the Examiner then improperly hypothesizes that Cameron's coil (6) could be used  
22 retract a patient's jaws open by applying the coil's force through the tips of Cameron's wire arms  
23 (5) directly against the soft tissues of a single cheek pouch.

24 The Examiner has not showed that a user's soft, cheek pouch tissue necessarily would, or  
25 even could, sustain without pain or injury the application of Cameron's coil and wire arms directly  
26 against that soft tissue. Such pain or tissue damage would render Cameron's coil and arms  
27 unsatisfactory as either a cheek pouch anchor or a retractor.

28 Persons of ordinary skill in the art would avoid the risks of pain and tissue injury that would  
29 arise from imposing directly onto soft tissue the strong retractive power of Cameron's severed coil  
30 (6) and wire arms (5). Persons of ordinary skill would not expect success from imposing such  
31 strong retractive powers against the soft tissues of a single cheek pouch.

32 Applicant traverses the Examiner's new hypothesis as unfounded speculation. It is grossly  
33 insufficient to show that Cameron's severed coil (6) and arms (5) **inherently** would be operable

1 as a cheek pouch anchor.

2 Applicant's claimed cheek pouch anchor has no need to deliver any retractive force to a  
3 user's jaw, either through teeth or through soft tissue. All the anchor is *claimed* to do is expand  
4 **itself** to maintain a span bridging across the user's inter occlusal space. The anchor need only  
5 follow after but need not force the opening of the user's jaw. The anchor then must compress  
6 again as the user's jaw fully closes.

7 The Examiner has not showed that persons of ordinary skill would be motivated to create a  
8 cheek pouch anchor (A) by dispensing with the retractive power of Cameron's coil (6), and (B) by  
9 dispensing with Cameron's plates (7) that attach to teeth, and then © free-floating that weaker  
10 spring within a user's cheek pouch in a new configuration that still maintains a span across the  
11 user's inter occlusal space. Neither has the Examiner showed that such a person of ordinary skill  
12 would have had a reasonable expectation of success in an attempt to use a spring that was not  
13 locked to a patient's teeth, but functioned in contact with tender, soft cheek pouch tissues.

14 The Examiner's Answer omits to address Applicant's point that simplification of prior art may  
15 be inventive. Here, Applicant simplified by omitting stabilizing attachments to a user's teeth, but  
16 Applicant has retained a capacity of resilient filament (28) to stabilize itself within a user's cheek  
17 pouch and also a capacity to anchor a work piece. See *MPEP 2144.04, subd. II.B*. This is not  
18 the only structural difference between the claimed cheek pouch anchor and prior art, but it is by  
19 itself a critical, patentable difference.

20 As explained in detail in the body of this Reply, the Examiner's new hypothesis is unlikely to  
21 mechanically function equivalently to Applicant's claimed cheek pouch anchor. Cameron's  
22 severed coil (6) and arms (5) are unlikely to be either rotationally or translationally stable when  
23 severed from teeth-engaging plates (7). Cameron's coil and arms likely would be driven by  
24 motion of the user's jaws (and/or by gravity) to re-orient into a "horizontal" position at the bottom  
25 of the cheek pouch where arms (5) would not compress as the user's jaws close.

26 Applicant's specific claim limitations do not read on Cameron's *severed* coil (6) and arms (5).  
27 After re-orienting under jaw motion and/or gravity, Cameron's severed arms and coil likely would  
28 fail to "maintain a span bridging across a user's inter occlusal space as a user's jaws and lips  
29 open and close." If severed from plates (7), a tip of Cameron's arm (5) likely would slip out  
30 through a user's lips, or would rotate or translate into the user's inter occlusal space. That would  
31 violate limitations of Applicant's claims.

32 The Examiner makes no serious attempt to show that Cameron's severed coil and arms  
33 **necessarily would** function in accord with the limitations of Applicant's claims. That is, the

1 function of a cheek pouch anchor is not ***inherent*** in Cameron's severed coil and arms.

2 Applicant shows that his claims do distinctly point out and claim the elements of his invention,  
3 in compliance with 35 U.S.C. § 112.

4

5 **DETAILED RESPONSE TO EXAMINER'S NEW THEORY.**

6

7 **FUNDAMENTAL CHANGE IN THE EXAMINER'S RATIONALE.**

8 Issue 1.3. In a newly revised rationale for anticipation, the Examiner's Answer severs  
9 Cameron's coil (6) and arms (5) from Cameron's teeth-engaging plates (7) as follows:

10 "Appellant argues The Office contradicts Appellant's definition of "users cheek pouch"  
11 because The Office stated that the Cameron device is sized to fits ***within the user's teeth***  
12 and on one side of the user's mouth and fit into the corresponding user's cheek pouch.  
13 However, The Office has construed Applicant's cheek pouch anchor as the coil spring (6) of  
14 Cameron. The coil spring (6) fits within the user's cheek pouch (p. 1, lines 61 - 68), as  
15 defined by Appellant, ***because the plates (7) that contour to the user's teeth are not***  
16 ***being construed as part of the cheek pouch anchor.***" Examiner's Answer, p. 9. (bold  
17 emphasis added).

18 Thus, the Examiner has conceded that Applicant's claim limitation "sized to fit within a user's  
19 cheek pouch" excludes teeth-engaging elements of prior art references, such as Cameron's  
20 plates (7).

21 This change in the Examiner's rationale is fundamental. Cameron's plates (7) lock  
22 Cameron's arms (5) and coil (6) to a user's teeth. Plates (7) thereby transmit the coil's strong  
23 retractive forces to the hard surfaces of a user's teeth, opposing strong crushing forces of the  
24 user's teeth and jaws. Cameron's plates (7) also leverage against the teeth to impose rotational  
25 and translational stability upon Cameron's coil (6) and arms (5).

26 By severing Cameron's plates (7), the Examiner eliminates the structure Cameron that uses  
27 (A) to prevent Cameron's coil and arms from rotating on the roll, pitch and yaw axes, and (B) to  
28 prevent translational motion on the "anterior-posterior" (or "head to tail"), and "dorsal-ventral" (or  
29 "back to front"), and lateral (or side-to-side) axes. See Applicant's Specification ¶¶ [0038] and  
30 [0039] for definition of these axes.

31 After severing plates (7), the Examiner now has a burden to prove how Cameron's ***severed***  
32 coil and arms necessarily will function equivalently to the claimed cheek pouch anchor. More  
33 particularly, the Examiner must show how Cameron's severed coil (6) and arms (5) inherently

1 address and solve the slippage and rotation problems articulated in Applicant's Specification, ¶¶  
2 [0058] - [0063], but without using the teaching of Applicant's invention by hindsight.

3  
4 What structure does the Examiner point out that will prevent rotational and translational  
5 instability of the Examiner's hypothetically severed coil (6) and arms (5)? None.

6  
7 **THE EXAMINER'S SEVERANCE OF CAMERON'S PLATES (7) RENDERS CAMERON**  
8 **INOPERABLE FOR CAMERON'S INTENDED RETRACTIVE FUNCTION. THIS ELIMINATES**  
9 **CAMERON BOTH FOR ANTICIPATION AND FOR OBVIOUSNESS.**

10 If the proposed modification of the prior art would change the principle of operation of the  
11 prior art invention being modified, then the teachings of the references are not sufficient to render  
12 the claims *prima facie* obvious. *MPEP 213.01, subd. VI*, citing *In re Ratti*, 270 F.2d 810, 123  
13 *USPQ 349 (CCPA 1959)*.

14 It cannot reasonably be disputed that Cameron uses his plates (7) for two essential purposes:

15 (A) to control the orientation of the vector forces that are delivered and received by

16 Cameron's coil (6) through the tips of Cameron's arms (5), and

17 (B) to transmit those vector forces from coil (6) through a user's teeth to a user's jaws.

18 The Examiner's hypothetical severance of Cameron's plates (7) eliminates these two essential  
19 functions from Cameron's device.

20 Severance of plate (7) renders Cameron's device incapable of performing Cameron's  
21 intended function of retracting a patient's jaws by pressure on the teeth. The Examiner  
22 effectively concedes that he must disable the intended mode of operation of Cameron's device in  
23 order to fit the severed coil (6) and arms (5) "within a user's cheek pouch." That eliminates  
24 Cameron as anticipating prior art. It also eliminates Cameron for obviousness purposes.

25  
26 **THE EXAMINER'S HYPOTHETICAL SEVERANCE OF CAMERON'S TEETH-ENGAGING**  
27 **PLATES (7) DEMONSTRATES THAT CAMERON TEACHES AWAY FROM APPLICANT'S**  
28 **INVENTIVE IDEA TO ELIMINATE FROM THE CHEEK POUCH ANCHOR ANY ATTACHMENT**  
29 **TO A USER'S TEETH.**

30 Plainly, Cameron never intended that his coil and wire arms impose forces on soft tissue. He  
31 specifically included plates (7) to deliver those forces to hard teeth surfaces, not to tender, soft  
32 tissues. Plainly, Cameron never intended that his coil and arms would be severed from  
33 Cameron's teeth-engaging plates (7) and left floating unattached in a user's cheek pouch.



1 Plainly, Cameron teaches away from Applicant's invention which eliminates attachments to the  
2 user's teeth.

3 Where does the Examiner's cite any prior art, evidence, or motivation that suggests  
4 Applicant's very first step in inventing the cheek pouch anchor: eliminating any attachment of the  
5 resilient filament (28) to the user's teeth?

6 The Examiner apparently fails to perceive the irony. After the Examiner has been induced to  
7 sever Cameron's teeth-engaging plates (7) to conform Cameron's coil (6) to one of Applicant's  
8 key claim limitations, the Examiner still insists that Cameron teaches how to configure a cheek  
9 pouch anchor that functions without any attachment to the user's teeth.

10 If the Examiner's severance of teeth-engaging plates (7) was not induced by the teaching of  
11 Applicant's Specification and claims, then what did induce the Examiner to sever Cameron's  
12 plates (7)? How could there be a more plain case of an examiner reading an applicant's teaching  
13 into the prior art by hindsight?

14

15 **THE EXAMINER INCORRECTLY DRAWS FROM CAMERON A DEMONSTRABLY FALSE**  
16 **INFERENCE THAT "CAMERON ANTICIPATED A CHEEK POUCH ANCHOR WITHOUT**  
17 **PLATES (7, 7)."**

18 The Examiner also incorrectly states:

19 "The Office acknowledges the Cameron states that a use of the plates (7, 7) is to prevent the  
20 teeth from touching and damaging the instrument. **However, that also means Cameron**  
21 **anticipated a cheek pouch anchor without the plates (7, 7), which is what Cameron**  
22 **improved upon.** Therefore, the cheek pouch anchor that Cameron improved upon is the coil  
23 spring (6)." (bold emphasis added)

24 Applicant traverses the Examiner's statement emphasized in bold, that Cameron anticipated a  
25 cheek pouch anchor "without the plates (7, 7)." It is a logical non-sequitur. It also demonstrably  
26 is factually false. Cameron's '436 patent cites to two of his own prior patents, US. Patents  
27 1,238,001 (the '001 patent) and 1,231,702 (the '702 patent), upon which Cameron's later '436  
28 patent claimed improvement.

29 The actual contents of Cameron's earlier '001 and '702 patents negate the Examiner's  
30 factually unfounded, illogical inference that the improvement in Cameron's later '436 patent was a  
31 cheek pouch anchor *that lacked any teeth-engaging hooks*. It appears that Cameron's principal  
32 improvement in the '436 patent is that Cameron's spring coil (6) replaces the hand-powered  
33 slidable elements (5, 6, 7) that are depicted in Cameron's '001 patent, Fig. 1. All three of

1 Cameron's patents depict teeth-engaging hooks.

2 Cameron's earlier '001 patent is for an attachment for retractors. His Fig. 1 depicts teeth-  
3 engaging hooks (9, 11). ("In using this device as a mouth gag **the hooks are placed against**  
4 **the teeth** in the upper and lower jaws and when the jaws are moved apart, the operator will  
5 spread the arms away from each other ....", col. 2: 74-80.)

6 Cameron's earlier '702 patent is an illuminating attachment for a dental retractor. His "702  
7 drawings also depict what evidently are teeth-engaging hooks (14, 14a, 16, 16a) in Fig. 1. See  
8 also Cameron '702, col. 2; 10 - 36. ("In using this device as a mo[uth?] gag, the hooks are placed  
9 against the te[eth?] in the upper and lower jaws and when [the?] lower jaw is moved downwardly  
10 to separ[ate?] the jaws, the operative will spread the a[rms?] of the retractor away from each  
11 other ....") (NOTE: In the USPTO's online electronic copy of Cameron's '702 patent the right  
12 side of column 2 was cut off during imaging, so Applicant has suggested likely completion of  
13 missing letters because this language in Cameron's '702 patent is nearly identical to language  
14 quoted above from Cameron's '001 patent.)

15 Thus, the Examiner's attempt to infer anticipating prior art is not just unfounded, the inference  
16 is factually false.

17

18 **APPLICANT'S SPECIFICATION AND DRAWINGS TEACH HOW TO CONFIGURE A**  
19 **RESILIENT ANCHOR FOR USE WITH SOFT CHEEK POUCH TISSUES, WITHOUT**  
20 **ATTACHMENT TO A USER'S TEETH.**

21 With reference to Applicant's Fig. 3, Applicant's resilient filament (28) has curled tips (29,  
22 29a) which minimize contact of the user's soft tissue with the tip, thus avoiding discomfort and  
23 pain.

24 By contrast with the tight coil (6) and extended arms (5) of Cameron, it can be seen in  
25 Applicant's Figure 3 that the radius of curvature of the loops of Applicant's resilient filament (28) is  
26 broadened relative to the size of teeth, gums and cheek pouch. This distributes contact between  
27 the resilient filament (28) and a user's soft tissue broadly along the length of the filament, rather  
28 than focusing contact at the tips.

29 That same broad radius of curvature relative to the size of teeth and gum confers greater  
30 capacity to maintain the span bridging across the inter occlusal space. It can be seen in Figure 3  
31 that the broad radius of curvature also distributes the mass of Applicant's resilient filament (28)  
32 more nearly symmetrically about the pitch axis of rotation so that pitch rotation becomes less  
33 critical to maintenance of a span bridging the user's inter occlusal space.

1 Applicant specification also teaches that the resilient filament need only expand sufficiently to  
2 maintain a span bridging the user's inter occlusal space, without necessity to impose retractive  
3 pressures on the top and bottom of a user's cheek pouch.

4 Please note that Applicant's claim 46 is in means plus function format, which must be  
5 construed to cover the corresponding elements in the specification and drawings.

6 By contrast with the cheek pouch anchor, one can readily envision that Cameron's less-  
7 symmetric arms (5), if severed from plates (7), could rotate into a "horizontal" orientation, and  
8 translate to the bottom of a user's cheek pouch where arms (5) and coil (6) would not be  
9 compressed by a user's cheek pouch. Neither Cameron nor any other art cited by the Examiner  
10 teaches how to re-configure Cameron's coil and arms to achieve Applicant's claimed cheek  
11 pouch anchor.

12 The Examiner improperly reads Applicant's teaching into modifications of Cameron using  
13 hindsight.

14

15 **AFTER SEVERANCE OF CAMERON'S TEETH-ENGAGING PLATES (7), THE EXAMINER**  
16 **STILL WOULD HAVE TO RE-CONFIGURE CAMERON'S COIL AND ARMS ACCORDING TO**  
17 **APPLICANT'S TEACHING TO ACHIEVE AN OPERABLE CHEEK POUCH ANCHOR.**

18 Throughout the prosecution of this application, the Examiner has cited for anticipation  
19 rejections dental retractors that attach to the patient's teeth.

20 It is well known that wires can focus concentrated force on soft tissue. For some perspective,  
21 consider that wires commonly are used to slice cheese and apples.

22 Applicant traverses the Examiner's assertion that it would be obvious to one of ordinary skill  
23 in the relevant art to weaken Cameron's coil (6) and arms (5) in order to convert Cameron's coil  
24 and arms from a retractor leveraged on teeth to a cheek pouch anchor in contact with soft  
25 tissues. That is unfounded speculation by the Examiner. The Examiner fails to consider  
26 practitioners' intuitive avoidance of pressure on tender soft tissues, as reflected in prior art.

27 If Cameron's coil and arms were to be placed into a user's cheek pouch, after severance of  
28 plates (7), then Cameron's coil and arms still would have to be radically modified, according to  
29 the teaching of Applicant's Specification, to reduce the forcefulness of coil (6) and to reconfigure  
30 the shape of the coils and arms to improve rotational stability and to avoid risks of discomfort,  
31 pain and injury to tender soft tissues of the cheek pouch.

32

33 **THE EXAMINER FAILS TO SYSTEMATICALLY SHOW THAT EACH AND ALL OF**

1 **APPLICANT'S CLAIM LIMITATIONS, TAKEN AS A WHOLE, READ ON CAMERON'S**  
2 **SEVERED COIL (6) AND ARMS (5).**

3 The Examiner has failed cite any prior art in which a spring element has all limitations of claim  
4 33:

5 (A) fits within a user's cheek pouch (***which excludes attachment to the user's teeth***  
6 ***outside the cheek pouch***), and

7 (B) resiliently expands so as to form and maintain a span bridging across a user's inter  
8 occlusal space as the user's jaws open and close, and

9 (C) has structural strength sufficient, when joined to a work piece, to maintain placement  
10 within a user's cheek pouch while a user's lips and jaws open and close.

11 Variations on these limitations of claim 33 also appear in independent claims 38, 39, 41 and 43.

12 After three separate searches and two appeals over a period of more than seven years, the  
13 Examiner has failed to cite a single reference upon which all of these claim limitations read.  
14 Each and every rejection for anticipation and obviousness is based upon Cameron. Therefore  
15 they all fail.

16

17 **THE EXAMINER ARGUES THAT DESIGN OF SPRINGS IS A PREDICTABLE ART, BUT**  
18 **FAILS TO RECOGNIZE THAT THE INTERACTION OF HARD SPRINGS WITH LIVING SOFT**  
19 **TISSUE OF A USER'S CHEEK POUCH IS NOT A PREDICTABLE ART.**

20 The new rationales stated in the Examiner's Answer expose a fundamental analytical issue.

21 The Examiner's rationales for anticipation and obviousness all presume that the field of  
22 Applicant's invention is a predictable art. The Examiner's Answer invariably narrowly views the  
23 relevant art as being merely the physical adjustment of springs calculated according to known  
24 laws of physics. Examiner's Answer, Issue 4, p. 15, lines 2 - 9; Issue 5, p. 15, lines 9 - 17;  
25 Issue 6, p. 18, lines 6 - 16; Issue 11, p. 21, lines 2 - 11; Issue 11.1, p. 21, lines 12 - 21; Issue  
26 11.3, p. 22, lines 13 - 18. For example, the Examiner argues:

27 "However the bending of spring loops, adding of coils, or varying the length of legs are easily  
28 predictable ways of adjusting the force of the spring since the force of the spring is calculated  
29 using equations where the preceding elements are variables. In addition, the adjustment of  
30 the spring can be done mechanically through an automated system where you input the  
31 variables or by the hand of the user." Id., p. 22, lines 13 - 18.

32 The Examiner's narrow view erroneously fails to recognize that the interaction of a spring with  
33 living, tender, soft tissue in a user's cheek pouch is not a predictable art.

1 This fundamental error is embedded in all rejections for anticipation and obviousness.

2  
3 **THE EXAMINER'S ANSWER DOES NOT RELY UPON, NOR EVEN SERIOUSLY DISCUSS,**  
4 **THE INHERENT FEATURE DOCTRINE.**

5 Appellant's Opening Brief pointed out that the Examiner had failed to prove the mandatory  
6 elements of the inherent feature doctrine. *Id.*, pp. 21-22 and in Issue 3.1, pp. 34 - 35. The  
7 doctrine requires an examiner to produce evidence that descriptive matter missing from a  
8 reference is **necessarily** present in the thing described in the reference; that it may occur or be  
9 present under some circumstances is insufficient. *MPEP 2112, subd. IV*. Where a characteristic  
10 must be achieved by optimization of a prior art device, that characteristic is not **necessarily**  
11 present in the prior art and therefore is not inherent. *In re Rijckaert*, 9 F.3d 1531, 1534, 28  
12 *USPQ2d* 1955; *In re Oehlrich*, 666 F.2d 578, 581-582, 212 *USPQ* 323, 326 (CCPA 1981).

13 Therefore, to establish anticipation and obviousness through the doctrine of inherency, the  
14 Examiner's now must demonstrate that Cameron's coil (6) and arms (5), **when severed from**  
15 **plates (7)**:

16 (I) necessarily will perform Applicant's claim limitation "maintain a span bridging across a  
17 user's inter occlusal space and lip opening as a user's jaws and lips open and close" after the  
18 stabilizing control of Cameron's teeth-engaging plates (7) has been severed; and at the same  
19 time

20 (ii) necessarily will **safely and functionally** bear upon the soft tissues of a user's cheek  
21 pouch, instead of hard teeth surfaces, without unreasonable pain, or tissue injury.

22 However, the Examiner has failed to cite any prior art or evidence whatsoever to establish either  
23 (I) or (ii).

24 The Examiner's response to Applicant's Issue 3.1 does not dispute the essential burdens of  
25 proof necessary to invoke the inherent feature doctrine; it simply ignores them. (Examiner's  
26 Answer, pp. 10 -11)

27  
28 **THE EXAMINER'S NEW HYPOTHESIS WOULD SHIFT AWAY FROM A USER'S HARD**  
29 **TEETH AND ONTO A USER'S TENDER, SOFT TISSUES THE RETRACTIVE FORCES THAT**  
30 **ARE IMPOSED THROUGH THE TIPS OF CAMERON'S ARMS (5) BY COIL (6).**

31 The Examiner's Answer argues as follows:

32 "Appellant argues it would only be accidental is some version of Cameron's arms (5) and coil  
33 (6) could self-stabilize in a cheek pouch when severed from attachment to upper and lower

teeth. Appellant contends that the coil spring (6), when severed from the plates (7) would not be able to self-stabilize within the user's cheek pouch. However, the severing of the plates (7) **would not prevent** the coil spring from stabilizing within the user's mouth. **The Office has given self-stabilize its broadest most reasonable definition, which is to make stable or steadfast, as defined by American Heritage Dictionary, 4th Ed.** The coil spring (6) is fully capable of being stable within the user's cheek pouch when it is in an expanded configuration ***because the bottom tip would contact the lower portion of the cheek pouch and the upper tip would contact the upper portion of the cheek pouch in an expansive manner that would cause it to remain stable until moved by the user.*** (bold emphasis added.)

Applicant traverses each of the Examiner's statements that are emphasized in bold. As explained below, the Examiner's new hypothesis is poorly thought out speculation, probably unstable, and probably inoperable as a cheek pouch anchor.

#### **THE EXAMINER IMPROPERLY ATTEMPTS TO SHIFT HIS BURDENS OF PROOF TO APPLICANT.**

The Examiner makes the weak argument that severance of Cameron's teeth-engaging plates (7) "would not **prevent** stabilizing." This "would not prevent" argument is legally inadequate on its face to establish anticipation or obviousness. This "would not prevent" test is no different from the Examiner saying that his hypothesis "might" work. It is insufficient to show inherency.

It is the Examiner's burden to prove that his revised hypothesis necessarily would be operable. It is not Applicant's burden to prove a negative, that is, Applicant does not have to prove that it is impossible for the Examiner's new hypothesis ever to operate.

#### **THE EXAMINER'S PROPOSAL, TO TRANSFER RETRACTIVE FORCES OF CAMERON'S COIL AND ARMS FROM HARD TEETH TO SOFT TISSUE, WILL NOT NECESSARILY BE OPERABLE AS A CHEEK POUCH ANCHOR. IT IS NOT EVEN LIKELY TO BE OPERABLE.**

Applicant traverses as speculative, unfounded, and improbable the Examiner's assertion that "the bottom tip [of Cameron's arm (5)] would contact the lower portion of the cheek pouch and the upper tip [of Cameron's arm (5)] would contact the upper portion of the cheek pouch in an expansive manner ***that would cause it to remain stable until moved by the user.***" (bold emphasis added).

The Examiner's hypothesis is not necessarily operable, nor even likely to be. What structure,

1 precisely, will mechanically cause the Examiner's postulated result? More importantly, what  
2 evidence shows that one of ordinary skill would have had an expectation of success from  
3 attempting the Examiner's hypothetical application of Cameron's coil and arms directly to a  
4 patient's soft tissue?

5

6 **THE EXAMINER'S ANSWER ONLY OFFERS HYPOTHESES BY WHICH CAMERON'S COIL**  
7 **AND ARMS *MIGHT BE MODIFIED* TO CONFORM TO APPLICANT'S CLAIM LIMITATIONS.**  
8 **IT DOES NOT EVEN ATTEMPT TO PROVE THAT CAMERON'S SEVERED COIL AND ARMS**  
9 ***NECESSARILY* WOULD FUNCTION AS CLAIMED FOR THE CHEEK POUCH ANCHOR.**  
10 **THUS, THE INHERENT FEATURE DOCTRINE DOES NOT APPLY HERE.**

11 The Examiner's modification of the mode of operation of Cameron's device negates  
12 application of the inherent feature doctrine. The Examiner's argument is just a hypothesis about  
13 a possible re-configuration of Cameron's coil and arms. It falls far short of proving that  
14 Cameron's severed coil and arms necessarily would function in accord with Applicant's claims for  
15 the cheek pouch anchor.

16 The Examiner's Answer fails to show inherency. All rejections for anticipation and  
17 obviousness therefore fail.

18

19 **ONE OF ORDINARY SKILL WOULD NOT TRANSFER THE RETRACTIVE FORCE OF**  
20 **CAMERON'S COIL AND ARMS FROM HARD TEETH TO SOFT CHEEK POUCH TISSUES**  
21 **BECAUSE OF THE INCREASED RISKS OF PAIN, DISCOMFORT AND TISSUE DAMAGE.**

22 Why would anyone of ordinary skill in the relevant arts risk pain and tissue injury by imposing  
23 retractive pressures on a patient's tender, soft tissues, when greater pressures can be imposed  
24 on teeth and jaws with known retractive effect, greater safety and less discomfort, as taught by  
25 Cameron's '436 patent?

26 The Examiner has a burden to show that Applicant's successful result either was predictable  
27 by one of ordinary skill in the art, or that one of ordinary skill would have had both a motivation to  
28 try and a reasonable expectation of success. *KSR International Co. v. Teleflex*, 127 S. Ct. 1727,  
29 1742, 167 L. Ed. 2d 705, 82 USPQ2d(BNA) 1385 (U.S. S.Ct., 2007). *MPEP* 2143.02. The  
30 Examiner's mere statement, that Applicant's elimination of attachment to a user's teeth was within  
31 the capability of one of ordinary skill in the art, is not sufficient by itself to establish *prima facie*  
32 obviousness. *MPEP* 2143.01, *subd. IV*.

33 The Examiner does not cite any evidence or prior art which suggests that a person of

1 ordinary skill would risk patient pain, discomfort and tissue injury by severing Cameron's  
2 attachment to teeth and then attempting to impose the retractive power of Cameron's coil (6) and  
3 wire arms (5) directly against the soft tissue of a single cheek pouch.

4

5 **PRIOR ART CITED BY THE EXAMINER, AS WELL AS APPLICANT'S SPECIFICATION,**  
6 **SHOWS THAT PRACTITIONERS OF THE ART ARE PREOCCUPIED WITH CONCERN FOR**  
7 **AVOIDING DISCOMFORT, PAIN, AND INJURY FROM PRESSURE ON SOFT TISSUE.**

8 Applicant traverses the Examiner's unfounded assumption that it would be obvious to one of  
9 ordinary skill in the relevant art to employ Cameron's coil (6) and wire arms (5) against the tender,  
10 soft tissues of a user's cheek pocket, rather than leveraging these forces against the patient's  
11 teeth as Cameron teaches. The Examiner's assertion is unfounded, incorrect speculation.

12 If Cameron's arms were placed with one wire tip at the top of an upright user's cheek pouch,  
13 and the other wire tip at the bottom of the cheek pouch, then the closing force of the user's jaws  
14 would deliver highly focused pressure from Cameron's wire tips to the user's tender soft tissue.  
15 That would work soft tissue against the powerful retractive force of Cameron's coil (6) and the  
16 compressive power of the user's jaws.

17 That highly focused pressure of Cameron's wire tips would pose unacceptable risks of  
18 discomfort, pain, chafing, gouging, bruising or puncturing of the user's soft tissue. Such a result  
19 would be unsatisfactory in either a cheek pouch anchor or a dental retractor.

20 Dental practitioners are preoccupied with prevention of discomfort and injury to tissue.

21 Consider examples from Cameron's patents:

22 "... in the event the patient should attempt to suddenly close his jaws, the teeth engaging  
23 portions of the retractor will prevent the patient bringing the teeth into contact with each other  
24 or closing the mouth .... incidentally injuring himself." Cameron, '436 patent, col. 1: 18-26;

25 "Other objects are the provision of an attachment that can be used in a patient's mouth  
26 without discomfort ...."; Cameron, '001 patent, col. 1: 31-33 ;

27 Applicant's Specification also states these concerns:

28 "It is an objective of this invention that it be adjustable to fit a particular person's comfort."

29 Applicant's Specification ¶ [0080].

30 "For comfortable fit, it is preferable that the outer surface of the rear-jaw gap portion 5 of the  
31 airway tube be smooth, rather than corrugated, to minimize irritation when the jaws close ..."

32 Applicant's Specification ¶ [0216].

33 Thus, there are well-known practical reasons why both Cameron and Liou leveraged their



1 retractors against a patient's teeth, and avoided pressures against tender soft tissues.

2 Applicant's choice to eliminate attachment to a user's teeth was counter-intuitive, contrary to  
3 the teaching of Cameron and Liou.

4

5 **THE EXAMINER FAILS TO SHOW HOW CAMERON'S COIL AND ARMS, WHEN SEVERED**  
6 **FROM PLATES (7), NECESSARILY WOULD MEET APPLICANT'S CLAIM LIMITATION THAT**  
7 **REQUIRES A CHEEK POUCH ANCHOR TO "MAINTAIN A SPAN BRIDGING ACROSS A**  
8 **USER'S INTER OCCLUSAL SPACE AND A USER'S LIP OPENING FORMED AS A USER'S**  
9 **JAWS OPEN AND CLOSE."**

10 Critically, the Examiner's Answer never provides any mechanical explanation to demonstrate  
11 how Cameron's coil (6) and arms (5), ***after severance from plates (7), necessarily*** will  
12 "maintain a span bridging across a user's inter occlusal space and a user's lip opening formed as  
13 a user's jaws and lips open and close."

14 What structure in Cameron's coil (6) and arms (5) ***necessarily*** will maintain such a span  
15 bridging the user's inter occlusal space and lip opening after plates (7) are severed?

16 The Examiner cannot credibly demonstrate that Cameron's coil (6) will achieve Applicant's  
17 claimed result, without first being reconfigured according to the teaching of Applicant's  
18 Specification.

19 Applicant's claims 33 and following do not use the phrase "self-stabilize." The Examiner's  
20 broad construction of "self-stabilize" is an irrelevant distraction. A dictionary definition cannot  
21 discharge the Examiner's burden to affirmatively show that Cameron's severed coil and arms  
22 inherently would "maintain a span bridging across a user's inter occlusal space and a user's lip  
23 opening as a user's jaws and lips open and close."

24

25 **SIMPLE MECHANICAL ANALYSIS SHOWS THAT CAMERON'S COIL AND ARMS, WHEN**  
26 **SEVERED FROM TEETH-ENGAGING PLATES (7) AND PLACED IN A USER'S CHEEK**  
27 **POUCH, LIKELY WOULD ROTATE ON A PITCH AXIS TO A "HORIZONTAL" ORIENTATION**  
28 **WHERE ARMS (5) AND COIL (6) WOULD NOT COMPRESS AS THE USER'S JAWS CLOSE.**

29 Simple, straightforward physics show that after severance of Cameron's teeth-engaging  
30 plates (7), Cameron's non-symmetric coil and arms likely will be driven by motion of a user's  
31 jaws, or by gravity, to rotate on a pitch axis. After such a pitch rotation the tips of Cameron's  
32 arms (5) will lie "horizontally" along the user's back-to-face axis, with one wire tip near the lips  
33 and the other wire tip near the rear of the user's cheek pouch. In that "horizontal" orientation,

1 Cameron's wire tips and coil (6) cannot be compressed as the user's jaws close.

2 In addition, when Cameron's coil and arms rotate into that "horizontal" orientation, there is  
3 nothing to prevent one of Cameron's wire tips from slipping out through the user's lip opening and  
4 projecting outside the user's cheek pouch. Neither is there any structure to prevent Cameron's  
5 small-diameter coil from rotating on a roll axis or yaw axis, or translating on a lateral axis, into the  
6 user's inter occlusal space. These mechanics are discussed in more detail at Issue 3.2 below.

7 Applicant's Specification points out that a user's inner cheek wall tends to drape over a  
8 cheek path airway and to urge that airway against the user's dental arches, gums and teeth.

9 Specification ¶ [0056]. This same cheek-draping effect would impose a lateral force on  
10 Cameron's small diameter coil (6), tending to press that coil into a user's inter occlusal space as  
11 a user's jaws and teeth open.

12 Thus, the Examiner's new hypothesis, which severs Cameron's plates (7), will not necessarily  
13 meet Applicant's claim limitation "maintain a span bridging across a user's inter occlusal space  
14 and lip opening formed as a user's jaws open and close."

15 Cameron's coil (6) and arms (5), severed from plates (7), likely would be non-operable as a  
16 cheek pouch anchor.

17

18 **THE EXAMINER'S HYPOTHESIS HAS A STRUCTURAL FEATURE ESSENTIAL TO ITS**  
19 **FUNCTION THAT APPLICANT'S CLAIMS DO NOT CONTAIN. THIS DEFEATS**  
20 **EQUIVALENCE BETWEEN THE EXAMINER'S NEW HYPOTHESIS AND APPLICANT'S**  
21 **CLAIMED ANCHOR.**

22 The Examiner hypothesizes that Cameron's severed coil and arms would remain stable by  
23 continuously imposing pressure "in an expansive manner" on both the top and bottom tissues of a  
24 user's cheek pouch. Apparently the Examiner imagines that coil (6) would impose "expansive"  
25 force sufficient to seat Cameron's arms into the user's soft tissue deeply enough that the user's  
26 tissue would mechanically fix an initial "vertical" orientation of Cameron's wire tips in the user's  
27 cheek pouch.

28 That raises at least two issues of proof that the Examiner has failed to acknowledge and  
29 discharge.

30 First, there is no evidence that soft tissue of a single cheek pouch necessarily would, or even  
31 could, tolerate such continuous, focused pressure from Cameron's arms without pain or injury.  
32 There is no showing that this is a predictable art.

33 Second, the Examiner is adding a new structural feature that is essential to operability of the

1 Examiner's hypothesis. But this essential new feature of the Examiner's hypothesis is not a  
2 limitation of Applicant's claims. Applicant's claimed cheek pouch anchor does not have to  
3 continuously remain in contact "in an expansive manner" with both the top and bottom of a user's  
4 cheek pouch. The cheek pouch anchor does not even have to expand to the full vertical height of  
5 a user's maximum jaw opening:

6 "The expansion of the resilient cheek pouch anchor of the instant invention can usefully  
7 increase the stability of a cheek-side airway over that of a fixed-span cheek-side stabilizing  
8 device even if the resilient device is unable to expand the full vertical height of a user's  
9 maximum jaw opening. This is because most jaw openings are less than the maximum  
10 potential jaw opening." Applicant's Specification, ¶ [0064].

11 Therefore, the Examiner's speculative hypothesis, that Cameron's coil and arms might stabilize  
12 by maintaining continuous contact "in an expansive manner" with both the top and bottom of a  
13 user's cheek pouch, would not be an equivalent to Applicant's claimed cheek pouch anchor. The  
14 Examiner's hypothetical coil and arms would not perform the same function in the same way as  
15 does the claimed cheek pouch anchor.

16 Thus, even assuming that the Examiner's hypothesis otherwise might be operable (which  
17 Applicant does not concede), still Cameron's coil and arms when severed from plates (7) would  
18 not anticipate Applicant's claimed anchor. They do not render Applicant's claimed anchor  
19 obvious.

20

21 **THE EXAMINER REFUSES TO ACKNOWLEDGE A CRITICAL STRUCTURAL DIFFERENCE**  
22 **IN FORCEFULNESS BETWEEN THE CLAIMED CHEEK POUCH ANCHOR AND PRIOR ART**  
23 **RETRACTORS: THE CHEEK POUCH ANCHOR HAS NO NEED FOR RETRACTIVE POWER,**  
24 **BUT ELIMINATION OF THAT POWER FROM PRIOR ART RETRACTORS WOULD RENDER**  
25 **THEM UNSUITABLE FOR THEIR INTENDED PURPOSE.**

26 Because Applicant's claims are limited to require only that the cheek pouch anchor "maintain  
27 a span bridging the user's inter occlusal space", Applicant's resilient filament (28) needs only to  
28 have the forcefulness to expand itself, following upon but not forcing the opening of a user's jaws.  
29 Applicant's Specification and claims lack any requirement that Applicant's resilient filament (28)  
30 have the power to retract a user's jaw open. By contrast, all of the prior art cited by the Examiner  
31 has been dental retractors that necessarily must apply force sufficient to urge a user's jaws open.

32

33 **THE EXAMINER MISSTATES AND MIS-APPLIES THE OPTIMIZATION RULING OF *In re***

1 **Boesch.**

2 The Examiner's Answer now argues for the first time:

3 “Appellant argues the Cameron and Liou devices need more force to compress than the  
4 claimed invention and the Cameron device is not compressible by soft tissue in the mouth.  
5 ...The ability to compress a coil spring with the soft tissue of the mouth depends on the  
6 stiffness of the spring and the strength of the soft tissue in the user's mouth. Cameron  
7 discloses the coil spring (6) does not hold the jaw in a rigid position (p. 1, lines 97-105). **The**  
8 **stiffness of the coil spring is not specifically stated, therefore, it would be an obvious**  
9 **design choice of the user in order to meet specific needs**; since it has been held that  
10 discovering an optimum value of a result effective variable involves only routine skill in the art.  
11 *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).”

12 The Examiner has misstated the *Boesch* ruling by omitting critical foundational limitations. To  
13 invoke the *Boesch* optimization ruling, the Examiner must first show in prior art:

14 (A) a statement of a known range of compression for teeth-leveraged jaw retractors, and (B)  
15 a statement of a known range of variables for springs that are compressible by soft cheek  
16 pouch tissue, and  
17 (C) that ranges A and B are known to overlap, so that  
18 (D) finding the proper spring compressibility for use with soft tissue is merely a matter of  
19 routine optimization within overlapping ranges A and B.

20 The Examiner has not even attempted to prove *prima facie* the foundation elements A - D before  
21 the *Boesch* optimization ruling can be applied.

22 Applicant traverses the Examiner's argument that,

23 “The stiffness of the [Cameron] coil spring **is not specifically stated, therefore**, it would be  
24 an obvious design choice of the user in order to meet specific needs.”

25 The highlighted portion of the Examiner's argument is a logical non sequitur. The Examiner  
26 silently, incorrectly presumes that interaction of a hard spring with live, soft tissue is a predictable  
27 art. There is no evidence that it is. The Examiner's silent presumption violates the logical  
28 foundational premise of the *Boesch* optimization ruling. The Examiner can rely on such a  
29 premise if and only if that premise is explicitly stated and also is capable of instant and  
30 unquestionable demonstration as being well known. *MPEP 2144.03*.

31 The Examiner has not showed that the prior art states a known range of compression for a  
32 cheek pouch device and further showed that such range overlaps the range for Cameron's dental  
33 retractor.

1 **THE EXAMINER FAILS TO PROVE THAT ESSENTIAL CHARACTERISTICS OF**  
2 **APPLICANT'S RESILIENT FILAMENT FALL WITHIN KNOWN RANGES STATED IN PRIOR**  
3 **ART. THE EXAMINER HAS FAILED TO SHOW THAT ONLY NON-INVENTIVE**  
4 **OPTIMIZATION WITHIN KNOWN RANGES WAS REQUIRED TO CREATE THE CHEEK**  
5 **POUCH ANCHOR.**

6 What evidence or prior art does the Examiner proffer to show that Cameron's coil and arms,  
7 when severed from plates (7), ***necessarily will be*** compressed by the soft tissues of a user's  
8 cheek pouch? None.

9 Rather, the Examiner has been forced to concede that Cameron's coil and arms would have  
10 to be structurally modified if they are to be compressed by soft tissue rather than by teeth.

11 But the Examiner's Answer evades the Examiner's burdens of proof through three serious  
12 errors as follows:

13 1. The Examiner refuses to acknowledge that he must bear the burden to demonstrate that  
14 Cameron's coil (6) and arms (5) ***necessarily*** would be compressible by a user's soft cheek pouch  
15 tissues, to prove that this claimed feature of Applicant's invention can legally be deemed to be  
16 ***inherent*** in Cameron's disclosure. Instead of accepting and bearing his lawful burden, the  
17 Examiner attempts incorrectly to shift to Applicant a burden to prove that it would be impossible  
18 for soft cheek pouch tissues to compress Cameron's coil and arms. Applicant has no such  
19 burden under patent law.

20 2. The Examiner asserts, incorrectly, that

21 "The ability to compress a coil spring with the soft tissue of the mouth depends on the  
22 stiffness of the spring and the strength of the soft tissue in the user's mouth." Examiner's  
23 Answer, p. 16: 10 - 12..

24 That is so simplistic and incomplete as to be untrue. A whole cascade of modifications would  
25 have to be made to re-configure Cameron's coil and arms before they ***necessarily*** would be  
26 compatible with compression by soft tissue and also ***necessarily*** would "maintain a span bridging  
27 across a user's inter occlusal space". The cascade of necessary modifications of Cameron's coil  
28 (6) and arms (5), after severance of Cameron's teeth-engaging plates (7), is not merely  
29 optimization within a known range that is stated in prior art. Rather, the Examiner is reading  
30 Applicant's teaching into Cameron's disclosure using hindsight.

31

32 **THE EXAMINER HAS MIS-STATED AND MISAPPLIED *In re Japikse* AND THE RULE**  
33 **CONCERNING REARRANGEMENT OF PARTS OF A PRIOR ART DEVICE.**

1 The Examiner has newly cited *In re Japikse*, 86 USPQ 70, 37 C.C.P.A. 1026 (1950) for a  
2 mis-stated, general proposition that rearranging the parts of an invention involves only routine  
3 skill in the art. On a case-by-case analysis this may be true *if* rearranging parts of a prior art  
4 device does not materially modify the operation of the device. In that event such rearrangement  
5 would not be patentable. However, a rearrangement that does not omit any parts still may be  
6 patentable:

7 "The mere fact that a worker in the art could rearrange the parts of the reference device to  
8 meet the terms of the claims on appeal is not by itself sufficient to support a finding of  
9 obviousness. The prior art must provide a motivation or reason for the worker in the art,  
10 without benefit of appellant's specification, to make the necessary changes in the reference  
11 device." MPEP 2144.04, subd. VI.C. quoting *Ex Parte Chicago Rawhide Mfg. Co.* 223  
12 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).

13 Here, the Examiner's new hypothesis does not just rearrange the parts of Cameron's device.  
14 Rather, the Examiner now has conceded that he must omit Cameron's teeth-engaging plates (7)  
15 which provide critical force-delivery and stabilization structure in Cameron's device. Omission of  
16 an element of a prior art device and retention of its function is an indicia of *nonobviousness*.  
17 MPEP 2144.04, subd. II.B. citing *In re Edge*, 359 F.2d 896, 149 USPQ 556 (CCPA 1966). Here  
18 Applicant has eliminated teeth-engaging elements, yet has retained stability by re-configuring.

19

## 20 DETAILED REPLY CONCERNING ISSUES 1 - 15 OF THE OPENING BRIEF

21

22 **ISSUES 1, 1.1, and 1.2.** The Office accepts that Applicant has properly stated a special  
23 definition of "user's cheek pouch" in the Specification.

24

25 **ISSUE 1.3.** The Office now has more precisely defined its construction of Cameron as  
26 follows:

27 "The Office has construed Appellant's cheek pouch anchor as the coil (6) of Cameron. the  
28 coil spring (6) fits within the user's cheek pouch (p. 1, lines 61-66), as defined by Appellant,  
29 because the plates (7) that contour to the user's teeth are not being construed as part of the  
30 cheek pouch anchor."

31 Applicant reads this Office hypothesis that coil (6) and arms (5) of Cameron would be physically  
32 severed from Cameron's teeth-engaging plates (7, 8, 9 and 10), before insertion of the severed  
33 coil (6) and arms (5) into a "user's cheek pouch". Based upon the Examiner's Answer on Issue

1 3.2, Applicant infers that The Office construes Cameron's arms (5) to be a sub-element of coil (6).  
2 For clarity, therefore Applicant will refer to Cameron's coil (6) and arms (5), but physically severed  
3 from Cameron's teeth-engaging elements (7, 8, 9, 10).

4 Solely for the sake of addressing the new theory argued in the Examiner's Answer, but  
5 without conceding the issue, Applicant will discuss the Examiner's hypothesis that Cameron's coil  
6 (6) and arms (5) could be placed "within" a "user's cheek pouch". Applicant's discussion is  
7 subject to two essential caveats:

8 (A) Cameron's coil (6) and arms (5) would have to be physically severed from Cameron's  
9 teeth-engaging elements (7, 8, 9 and 10) and not otherwise attached to a user's teeth, and

10 (B) "within" has Applicant's chosen dictionary definition "inside the limits of, not going  
11 beyond".

12 Applicant traverses the Examiner's suggestion that Cameron's arms (5), severed from plates  
13 (7), could safely be placed within a user's cheek pouch without wire arms (5), and especially the  
14 tips of wire arms (5), causing unacceptable pain, gouging, bruising, chafing or puncturing of soft  
15 tissues of the cheek pouch. Such pain or tissue injury would be unsatisfactory in cheek pouch  
16 anchor, and generally would also be unsatisfactory in a dental retractor.

17 As explained below, the forcefulness of Cameron's coil (6) would have to be weakened to  
18 eliminate retractive forces, and re-configured to avoid driving Cameron's arms (5), and especially  
19 the tips of arms (5), into soft tissues of the cheek pouch, causing unacceptable discomfort or  
20 injury.

21

22 **ISSUE 1.4.** Applicant Summary above traversed in detail the Examiner's new theory that  
23 Cameron's coil spring (6), if severed from plates (7), anticipates independent claims 33, 38, 39,  
24 40, 41, and 43.

25

26 **THE EXAMINER'S ASSERTION, THAT CAMERON'S RETRACTIVE COIL AND ARMS COULD**  
27 **BE COMPRESSED BY A USER'S SOFT TISSUES, NOT ONLY IS UNFOUNDED**  
28 **SPECULATION, IT IS INCONSISTENT WITH STRAIGHTFORWARD MECHANICAL**  
29 **ANALYSIS.**

30 The Examiner's Answer incorrectly states:

31 "Appellant argues the Cameron device does not expand and compress as the user's jaws  
32 open and close. However, the Cameron device is a coil spring (6), which would compress  
33 under the force of the user's jaw (p. 1, lines 89 - 96)."

1 The Examiner's hypothesis is that Cameron's coil (6) and arms (5) could be severed from  
2 Cameron's teeth-engaging elements and then oriented in a 'vertical' position within a user's cheek  
3 pouch. Of course, after severance of teeth-engaging plates (7), a user's teeth no longer could be  
4 brought to bear to compress coil (6) and arms (5), so only soft tissues could bear on coil (6) and  
5 arms (5). Also, plates (7) no longer would stabilize the orientation of Cameron's coil and arms  
6 within the user's cheek pouch.

7 At best, the soft tissues of the user's cheek pouch might briefly be brought to bear only if and  
8 when the tips of Cameron's arms (5) were in a "vertical" pitch orientation. However, that "vertical"  
9 orientation would be unstable. Even if initially placed into a "vertical" orientation in a user's  
10 cheek pouch, Cameron's severed coil and arms likely would simply rotate away from the "vertical"  
11 pressure into a more or less "horizontal" position of lesser resistance, before they would  
12 compress -- unless Cameron's arms embedded or punctured into the soft tissue, which would be  
13 unsatisfactory, that is, a dysfunction. After Cameron's arms (5) rotated away from "vertical", the  
14 user's soft tissues could not be brought to bear to compress the tips of Cameron's arms. That is,  
15 it is likely the Cameron's severed coil and arms would not compress as the user's jaws close, but  
16 rather they would be driven to rotate away from jaw pressure.

17 The Examiner speculates, without any evidentiary foundation or cited prior art, that a user's  
18 soft tissues could safely sustain the jaw force necessary to physically compress the tips of  
19 Cameron's arms (5) against the retractive force of Cameron's coil (6). The Examiner has failed  
20 to address the risks that the tips of arms (5), when severed from plates (7), would cause  
21 unacceptable discomfort, pain or injury to tender, soft tissues. Assuming for the sake of  
22 argument (without conceding) that Cameron's severed coil and arms would not simply rotate  
23 away from jaw pressure, then Cameron's wire tips likely would cause pain and might even  
24 penetrate the soft tissues of the user's cheek pouch when those wire tips were driven against a  
25 user's soft, cheek pouch tissue, crushed between the retractive power of Cameron's coil (6) and  
26 the opposing power of the user's closing jaws.

27 The Examiner's new idea to sever Cameron's plates (7) would force a cascade of  
28 reconfigurations in Cameron's coil (6) and arms (5) to achieve rotational stability that would  
29 maintain them in an orientation where they necessarily be compressed, and to achieve  
30 compressibility under the limited forces that are compatible with a user's tender, soft cheek pouch  
31 tissues.

32 The Examiner, with no evidence nor citation to any prior art, simply speculates that every  
33 step in this cascade of changes would be obvious to a person of ordinary skill in the relevant arts.



1 Applicant traverses the Examiner's assertions of obviousness, both as to each individual step  
2 and as to the whole chain of allegedly obvious steps.

3 Despite at least three separate searches over a seven year period and two appeals by  
4 Applicant, the Examiner still has never cited any prior art that employs a spring element within a  
5 user's cheek pouch to maintain a span bridging the inter occlusal space **without any attachment**  
6 **to the user's teeth** and does not employ sufficient force to retract a user's jaw open.

7

## 8 **ISSUE 2.**

9

10 **THE EXAMINER, UNREASONABLY AND INCONSISTENTLY WITH APPLICANT'S**  
11 **SPECIFICATION, INSISTS UPON USE OF THE EXAMINER'S IDIOSYNCRATIC DEFINITION**  
12 **OF "WITHIN" TO MEAN "SIMULTANEOUSLY INSIDE AND OUTSIDE."**

13 The rule is that an Examiner should construe claim language **reasonably** broadly,  
14 consistently with the Specification as it would be understood by a person of ordinary skill in the  
15 art. The Examiner's construction "simultaneously inside and outside" is neither reasonable nor  
16 consistent with Applicant's specification.

17 Applicant invariably has used a definition of the word "within" that is a consensus meaning in  
18 accord with authoritative dictionaries: "within" means "in the compass of; not beyond", or "in the  
19 limits of, not going beyond". *Random House Webster's Dictionary, 1993, Random House, Inc.;*  
20 *Chambers's Twentieth Century Dictionary, 1965, W.&R. Chambers, Ltd., first American edition.;*  
21 *see also American Heritage Dictionary, Fourth Edition, ISBN: 0-385-33576-8, Copyright 2001,*  
22 *Houghton Mifflin Company, published by Dell Publishing, a division of Random House, Inc., 1540*  
23 *Broadway, New York, New York 10036*

24 Applicant specially defined physiological limits in the term "user's cheek pouch" for use in the  
25 claims. Applicant then invoked those special limits in the claims by use of the word "within" in the  
26 sense of "in the limits of, not going beyond." A reasonable person of ordinary skill would so read  
27 Applicant's Specification and claims, especially if that reasonable person looked up the  
28 consensus dictionary definition of "within".

29 No dictionary cited by either Applicant or the Examiner defines "within" to mean  
30 "simultaneously inside and outside." Rather, the Examiner chose an obscure, fragmentary  
31 definition "in or into the inner part; inside", which the Examiner then distorted to the Examiner's  
32 own idiosyncratic meaning "simultaneously inside and outside" as follows:

33 "Appellant argues The Office misconstrued the word within to mean simultaneously inside

1 and outside of and thereby violating the rule that a word must be given its plain English  
2 meaning consistently with an Appellant's specification. **However, according to American**  
3 **Heritage Dictionary, 4th Ed., within means "in or into the inner part; inside."** Therefore,  
4 the within the user's cheek pouch **can be construed to mean simultaneously inside and**  
5 **outside** of the user's cheek pouch, or into the inner part of the user's cheek pouch."

6  
7 First, the fragmentary definition quoted by the Examiner cannot reasonably be construed to  
8 mean "simultaneously inside and outside"; that is an unreasonable distortion.

9 Second, Applicant traverses the Examiner's quotation of a definition of "within". The definition  
10 of "within" in Applicant's copy of *American Heritage Dictionary, Fourth Edition*, materially differs  
11 from that quoted in the Examiner's Answer as follows:

12 "within adv. 1. Inside. 2. Inside the mind or body; inwardly. 3. Indoors. prep. 1. Inside. 2.  
13 Inside the limits or extent of. 3. Inside the fixed limits of: *within one's rights*. 4. In the scope  
14 or sphere of. n. An inner position, place or area: *treachery from within*." *American*  
15 *Heritage Dictionary, Fourth Edition, ISBN: 0-385-33576-8, Copyright 2001, Houghton Mifflin*  
16 *Company, published by Dell Publishing, a division of Random House, Inc., 1540 Broadway,*  
17 *New York, New York 10036.*

18 Thus, the definition of "within" from Applicant's copy of American Heritage Dictionary is fully  
19 consistent with the definitions cited by Applicant from other dictionaries, but is inconsistent with  
20 the Examiner's fragmentary quotation. More critically, multiple dictionary definitions contradict the  
21 Examiner's idiosyncratic definition "simultaneously inside and outside."

22 Third, assuming the Examiner obtained his fragmentary definition from some other version of  
23 American Heritage Dictionary, still the rule of construction in patent law is that an Examiner's  
24 construction of a word used in a claim must be consistent with the applicant's specification. Here  
25 the Examiner's "simultaneously inside and outside" construction is inconsistent with Applicant's  
26 Specification. Applicant's Fig. 3 plainly, unequivocally depicts the cheek pouch anchor (flexible  
27 filament 28) inside, and not extending beyond the limits of, the user's cheek pouch (dotted line  
28 (50)). See Specification ¶ [0194], last sentence.

29 Fourth, Applicant invariably and explicitly has employed the consensus definition of "within"  
30 from multiple authoritative dictionaries. What is the Examiner's principled justification for  
31 imposing a non-consensus construction that is contrary to Applicant's chosen definition and  
32 inconsistent with Applicant's Specification? That is plain error. Surely, if an applicant is entitled  
33 to completely redefine a word, then it necessarily follows that an applicant is entitled select which

1 alternative definition to use from authoritative dictionaries.

2 Fifth, a quick review of any authoritative, comprehensive dictionary shows that most words  
3 have several alternative definitions. If examiners are empowered to contradict an applicant's  
4 choice of a particular dictionary-supported definition whenever an examiner can locate an  
5 inconsistent alternative, then writing patent claims will become practically impossible. If that were  
6 the rule, then applicants would have to designate a particular dictionary and select a particular  
7 variant definition for every word in every claim. That fact has been recognized for over a century  
8 and is a part of the principled basis for the well settled rule that an applicant can be his own  
9 lexicographer.

10 Sixth, based of the foregoing, the Examiner's rejection of Applicant's chosen definition of  
11 "within" is an unreasonably hostile construction of claim language and is an abuse of discretion.  
12

13 **ISSUES 3 and 3.1.** The Examiner's Answer remains ambiguous concerning Applicant's claim  
14 phrase "wholly within". The Examiner's answer simply re-iterates, with no meaningful analysis,  
15 the Examiner's conclusion:

16 "With respect to the Cameron device, the coil spring (6) has the ability to stabilize within the  
17 user's cheek pouch (p. 1, lines 61 - 66). In order to retain the user's mouth in an open  
18 position (p. 1, lines 97 - 105)."

19 This bare conclusion in the Examiner's Answer fails to answer the ultimate question: What  
20 structure and physical mechanics demonstrate that Cameron's coil (6) and arms (5), when  
21 severed from teeth-engaging elements (7, 8, 9), anticipate each and every limitation of  
22 Applicant's claims?

23

24 **THE EXAMINER'S ANSWER INCORRECTLY CONSTRUES APPLICANT'S ISSUE 3 AND ITS**  
25 **SUB-ISSUES AS THOUGH GENERIC "STABILITY" OF CAMERON'S COIL (6) *IN ANY***  
26 ***ORIENTATION* WOULD SUFFICE. TO THE CONTRARY, APPLICANT'S CLAIMS REQUIRE**  
27 **THAT A CHEEK POUCH ANCHOR BOTH FIT "WITHIN A CHEEK POUCH ANCHOR" AND**  
28 **ALSO "MAINTAIN A SPAN BRIDGING ACROSS A USER'S INTER OCCLUSAL SPACE AND**  
29 **A USER'S LIP OPENING FORMED AS A USER'S JAWS AND LIPS OPEN AND CLOSE."**  
30 **(CLAIM 33 AND SIMILAR CLAIMS 38, 39, 40, 41 AND 43).**

31 The Examiner's second final rejection under 35 USC § 102, which here is on appeal, did  
32 argue that Cameron's device could maintain a span across the user's inter occlusal space and a  
33 user's lip opening as the user's jaws and lips open and close." Examiner's Answer, p. 4, line 25 -

1 p. 5, line 2. It is true that when Cameron's plates (7) hook Cameron's coil onto a user's teeth,  
2 Cameron's whole device would positively maintain a bridging span across the user's inter  
3 occlusal gap. However, the Examiner's Answer now severs plates (7) and relies only on  
4 Cameron's coil (6) and arms (5). Yet the Examiner's Answer never provides any mechanical  
5 explanation to demonstrate how Cameron's coil (6) and arms (5), **after severance from plates**  
6 **(7)**, necessarily will "maintain a span bridging across a user's inter occlusal space and a user's lip  
7 opening formed as a user's jaws and lips open and close."

8 What remaining structure in Cameron's severed coil (6) and arms (5) will cause that result?  
9 The Examiner never explains.

10 "A claim is anticipated only if each and every element as set forth in the claim is found, either  
11 expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil*  
12 *Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), cited in *MPEP*  
13 2131.

14 This rule commonly is paraphrased that each and every element of the claim must "read on"  
15 the cited prior art for anticipation to exist.

16 The Examiner's Answer consistently misstates this analytical rule backward, saying that  
17 Cameron's coil (6) reads on Applicant's claim. See, for example, Examiner's Answer, p. 14, lines  
18 3-5, 13-14; p. 17, lines 17, 19; p. 18, line 5; p. 19, line 9.

19 Why is the Examiner's backwards formulation a problem? Because the Examiner uses his  
20 backwards formulation to improperly find anticipation by Cameron's severed coil (6) without  
21 systematically showing that each and every limitation of Applicant's claims reads on Cameron's  
22 severed coil (6) and arms (5).

23 This same analysis applies equally to the somewhat different language of independent claims  
24 38, 39, 40, 41, and 43.

25

26 **ISSUE 3.2.** The Examiner's hypothetical mechanics are poorly thought-out speculation,  
27 unsupported by any evidence or citation to prior art. They are physically nonsensical, would be  
28 inoperable as a cheek pouch anchor, and defy rudimentary physics.

29

30 **THE EXAMINER CAN NOT SHOW OPERABILITY OF HIS THEORY THAT CAMERON'S COIL**  
31 **(6) WOULD ACT AS A SELF-STABILIZING ANCHOR IF CAMERON'S COIL WERE SEVERED**  
32 **FROM CAMERON'S TEETH-ENGAGING ELEMENTS AND PLACED WITHIN A USER'S**  
33 **CHEEK POUCH; IT IS UNLIKELY TO BE OPERABLE.**

1 Simple physics demonstrates that Cameron's non-symmetric severed coil (6) would not  
2 stabilize the tips of its arms (5) along a patient's anterior-posterior (head to tail) axis. The  
3 physical reasons, stated with respect to an upright user, are as follows:

4 1. When severed from connection to a user's teeth by plates (7), Cameron's coil and arms  
5 would simply expand to their maximum extent, unless restrained by soft tissue of the cheek  
6 pouch. Cameron's specification does not disclose what that maximum extent is. One can only  
7 guess.

8 2. Inferring from Cameron's drawings, the center of gravity of Cameron's coil (6) would lie in  
9 or about the more massive, central part of Cameron's coil, not on either wire (5).

10 3. If severed from Cameron's teeth-engaging plates (7), Cameron's coil would rotate on a  
11 pitch axis and translate on a head-to-toe axis to move its center of gravity to the lowest potential  
12 energy. (Assuming, of course, that neither of Cameron's arms (5) became snagged or embedded  
13 in the patient's soft tissue.)

14 4. In an upright patient, coil (6) would rotate and translate to orient its more massive central  
15 coil to sit at the "bottom" of the user's cheek pouch, adjacent to the lower gums and jaw.

16 5. When sitting at the bottom of the user's cheek pouch to minimize the potential energy of  
17 the coil's center of gravity, the tips of arms (5) of Cameron's coil most likely would be oriented  
18 along the patient's back-to-face axis, not along the head-to-toe axis.

19 6. As a patient's jaws close and compress against Cameron's arms (5), there would be no  
20 structure to resist rotation and translation that would align arms (5) and coil (6) into a position of  
21 least resistance, along the patient's back-to-face axis. Thus, gravity operating on the center of  
22 mass would combine with the force imposed by a patient's closing jaws to drive the tips of  
23 Cameron's severed coil (6) into a non-functional orientation along the back-to-face axis.

24 7. Once the arms of Cameron's coil have rotated to orient along the patient's back-to-face  
25 axis, there would be no applicable rotational and translational forces to restore alignment of arms  
26 (5) along the patient's head-to-toe axis when the patient's jaws opened.

27 8. When severed arms (5) of Cameron's coil (6) have aligned along the patient's back-to-  
28 face axis, arms (5) could not expand and compress as the user's jaws open and close. The coil  
29 and wire would simply expand to their maximum extent along the back-to-face axis and stay  
30 there.

31 9. Therefore, Applicant's claim limitation, that the spring element must expand and  
32 compress to maintain a span bridging across the user's inter occlusal gap as the user's jaws  
33 open and close, does not read on Cameron's coil (6) when severed from plates (7).

1 The Examiner bears the burden to demonstrate that his theory would be operable in  
2 conformity with Applicant's claim limitations. Plainly, it would not be operable. To render his  
3 theory operable, the Examiner would have to restructure Cameron's coil, using Applicant's  
4 teaching by hindsight.

5  
6 **ISSUE 3.3.** The Examiner's Answer states:

7 "Appellant has not stated the structural difference between the Cameron device and the  
8 claimed invention; therefore that argument is unpersuasive.

9 The Examiner here is simply ignoring the plainly articulated structural differences.

10

11 **ISSUE 3.4.** The Examiner refuses to construe the claim limitation "sized to fit within one of  
12 a user's cheek pouches" as closed, not open syntax, in claims 39, 40, 41, and 43.

13 The Examiner states:

14 "The preceding claim limitation is open syntax because the preambles of the claims (41 and  
15 43) containing this limitation state "comprising" as the transition word between the preamble  
16 and the body of the claims. "The word comprising transitioning from the preamble to the body  
17 signals that the entire claim is presumptively open-ended." *MPEP 2111.03*. However,  
18 Appellant is ignoring the preambles of the claim. Therefore, the abovementioned claim  
19 limitation is presumptively open syntax."

20 Because the rule recited by the Examiner is only a presumption, it necessarily follows that an  
21 applicant has the right to overcome the presumption. Here Applicant has overcome the  
22 presumption (A) by explicitly using closed language "one of a user's cheek pouches", and (B) by  
23 explicitly stating in Applicant's responses to Office actions that the language "one of a" is  
24 intended to be closed. Use of the transitional word "comprising" does not confer on an examiner  
25 the power to contradict the words actually used in claim limitations.

26

27 **ISSUE 3.5.** Applicant's Issue 3.5 states that Cameron's device cannot fit "within" one cheek  
28 pouch. The Examiner's Answer states:

29 "Cameron's coil spring (6) fits within the user's cheek pouch (p. 1, lines 61-68) as defined by  
30 Appellant, because the plates (7) that contour to the user's teeth are not being construed as  
31 part of the cheek pouch anchor. Therefore, the Cameron device (6) fits tithing (sic) one of  
32 the user's cheek pouches."

33 Thus, the Examiner has conceded Issue 3.5 as applied to Cameron's whole device, and has

1 adopted the Examiner's new theory in which Cameron's teeth-engaging plates (7) are severed.

2

3 **ISSUE 3.6.** Applicant's Issue 3.6 states that Cameron's device cannot fit "within" two cheek  
4 pouches, as contemplated by the partially open claim phrase "one of a user's cheek pouches." A  
5 user by definition has only two cheek pouches.

6 The Examiner's Answer on this Issue 3.6 explicitly disclaims any contention that Cameron's  
7 coil (6) and arms (5) can fit simultaneously within two cheek pouches.

8 In claims 33 - 40, Applicant used the partially open syntax "a user's cheek pouch". This  
9 phrase means one or two cheek pouches because the definition of "user's cheek pouch" in the  
10 Specification specifically states that a user has two cheek pouches. Applicant also pointed out  
11 how Applicant's cheek pouch anchor structurally can fit "within" two cheek pouches.

12

13 **ISSUE 3.7.** Applicant pointed out that Applicant used two partially open claim limitations  
14 "adapted to be placed **within a** user's cheek pouch" and "sized to fit **within a** user's cheek pouch."  
15 (Claims 33, 38, 39, and 40).

16 The Examiner's Answer argues:

17 "Cameron's spring coil (6) is adapted to be placed and sized to fit within the user's cheek  
18 pouch (p. 1, lines 61-66), as defined by Applicant, because the plates (7) that contour to the  
19 user's teeth are not being construed as part of the cheek pouch anchor. Therefore, Cameron  
20 reads on the claim limitations "adapted to be placed within a user's cheek pouch and "sized to  
21 fit within a user's cheek pouch".

22 Thus, the Examiner conceded Issue 3.7 as to Cameron's whole device by stating the Examiner's  
23 new theory in which Cameron's plates (7) have been severed from coil (6).

24

25 **ISSUE 3.8.** In Issue 3.8 Applicant traversed the Examiner's refusal to treat Applicant's claim  
26 phrase "sized to fit **within one** of a user's cheek pouches" as closed syntax. The Examiner's  
27 Answer at Issue 3.8 is non-responsive to the specific issue raised here. However, see the  
28 discussions at Issues 3.4 and 3.5 where the Examiner argues, incorrectly, that closed syntax  
29 cannot be used in any claim that employs the transitional word "comprising." Use of the  
30 transitional word "comprising" does not empower the Examiner to contradict words used in the  
31 body of the claim. As Applicant points out there, Applicant has overcome the presumption that  
32 limitations following the word "comprising" are open.

33

1       **ISSUE 3.9.** In Issue 3.9 Applicant traverses the refusal of the Examiner to treat Applicant's  
2 claim limitation "spring means that fit **wholly within** a user's cheek pouch" as closed syntax in  
3 claim 46. Applicant amended to add Claim 46 with this "wholly within" language to demonstrate  
4 that the Examiner refuses to construe any language as closed syntax. Specifically, this "wholly  
5 within" claim limitation was added to affirmatively negate the Examiner's refusal to accept  
6 Applicant's chosen definition of "within", and the Examiner's erroneous insistence upon  
7 construing "within" to mean "simultaneously inside and outside." Applicant noted that he  
8 considers the word "wholly" as redundant, because "within" already means "inside the limits of,  
9 not going beyond."

10

11 **ISSUE 4.** Applicant's Issue 4 pointed out the limitations of claims 40, 41, and 43 that require a  
12 cheek pouch anchor to allow a user's jaws to "fully close." Cameron prevents complete closure  
13 of a patient's jaws with outer corners (10, 10) on plates (7) to preserve space (11) between the  
14 user's teeth. (col. 2: 89-96.) The Examiner's Answer has conceded this point. This is part of  
15 what led to the Examiner's new theory in which Cameron's plates (7) are severed from coil (6).

16       The Examiner simply speculates, with no evidence nor citation of any prior art, that  
17 Cameron's severed coil (6) and arms (5) would "self-stabilize". Why?

18       The Examiner's bald assertion that Cameron's severed coil and arms would remain where  
19 placed in the user's cheek pouch is unpersuasive, unfounded, speculation. It is not even  
20 plausible, for the reasons explained in detail at ISSUE 3.2 above.

21       Simple physics suggest that Cameron's severed coil would end up with the wire tips oriented  
22 "horizontally" from lips to the rear of the mouth

23

24 **ISSUE 4.1.** Applicant pointed out that the claimed cheek pouch anchor must be sufficiently  
25 compressible to fit "within" a user's cheek pouch. Cameron's whole device never could be so  
26 compressed because plates (7) necessarily must extend outside a cheek pouch to attach to  
27 teeth. The Examiner's answer partially concedes this point and states his new theory severing  
28 plates (7).

29       However, the Examiner still refuses to acknowledge that there is a structural difference in the  
30 forcefulness of Cameron's retractor and Applicant's cheek pouch anchor. Cameron's statement  
31 that his device is a retractor

32       "adapted for use by dentists for the purpose of holding a patient's mouth or jaw in open  
33 positions." (col. 1: 9-13).



1 “In the use of the instrument just described the expansive action of the coil or spring 6 is  
2 sufficient, under normal conditions, to hold the patient’s mouth in an easy extended or open  
3 position, but will not hold the jaws rigid so as to cramp the buccinator muscles of the cheek  
4 as would be the case in the event the retractor arms were rigidly retained in adjusted  
5 positions.” (col. 2: 97-105)

6 Cameron transmits the expansive force of Cameron’s coil (6) and arms (5) through Cameron’s  
7 plates (7) to a user’s teeth embedded in a user’s jaws.

8 By structural distinction, Applicant’s cheek pouch anchor needs only maintain a span bridging  
9 across a user’s inter occlusal space, and does not need the force necessary to retract a user’s  
10 jaws open. If the power of Cameron’s spring were reduced to eliminate the force necessary to  
11 retract a user’s jaws open, then Cameron’s device would fail to perform its intended function.

## 12 13 **ISSUE 5.**

14 In Issue 5 and its sub-parts, Applicant’s Opening Brief systematically quoted particular  
15 combinations of limitations in Applicant’s claims 33 - 43 that do not read on Cameron’s device.  
16 The quoted limitations do not read on Cameron’s device because Cameron’s coil (6) and arms (5)  
17 indisputably are compressed by Cameron’s teeth-engaging plates (7), whereas only the soft  
18 tissues of a user’s cheek pouch, not teeth, must compress Applicant’s resilient coil and arms.

19 The Examiner’s Answer effectively concedes Applicant’s points in Issue 5 and its subparts as  
20 applied to Cameron’s whole device.

21 In his Answer, the Examiner radically revises his hypothesis by severing Cameron’s teeth-  
22 engaging plates (7) from Cameron’s coil (6) and arms (5). If severed from plates (7), the  
23 Examiner argues, then coil (6) and arms (5) no longer will be compressed by a user’s teeth.

24 As explained in detail at Issue 3.2 above, the Examiner has failed to discharge his burden of  
25 proving that Cameron’s coil (6) and arms (5) when severed from plates (7) **inherently** would  
26 perform as the claims require a cheek pouch anchor to perform. It is improbable that the  
27 severed coil and arms would so perform.

28  
29 **ISSUES 5.1, 5.2 AND 5.3.** The Examiner simply iterates his same unfounded, speculative  
30 conclusion that Cameron’s coil and arms would be compressible by the soft tissue of a user’s  
31 cheek pouch. That is not necessarily true. Rather, it is improbable as explained above.

32 The remainder of Issue 5 and its subparts merges with Issue 6.  
33

1 **ISSUE 6.** Applicant pointed out a plain structural distinction. The coil (6) and arms (5) of  
2 Cameron's dental retractor necessarily must have the greater power necessary to force open a  
3 user's jaw through pressure on a user's teeth. By distinction, Applicant's cheek pouch anchor  
4 needs to have much lesser forcefulness than Cameron's dental retractor. This lesser power is  
5 (A) because the anchor must be compressible by the user's soft tissues rather than hard teeth,  
6 and (B) because the anchor needs only expand itself following the opening of a user's jaw to  
7 maintain a span bridging the user's inter occlusal space. The cheek pouch anchor does not even  
8 have to maintain contact with both the top and bottom of a user's cheek pouch, but only needs to  
9 span the inter occlusal space.

10 The Examiner's Answer does not dispute that it is common knowledge that hard teeth can  
11 sustain far more powerful forces than can an equal surface area of soft tissues.

12 The Examiner's Answer on Issue 5 seems to implicitly recognize that the Examiner still must  
13 show that Cameron's coil and arms **will be** compressed by the soft tissues of a user's cheek  
14 pouch as a user's jaw closes, after the Examiner has severed Cameron's plates (7).  
15

16 **ISSUE 6.1.** The Examiner concedes Applicant's point that Cameron's plates (7) with hooks  
17 (8) are intended to and would prevent a user's mouth from fully closing, such that Applicant's  
18 claim limitation "fully close" does not read on Cameron's full device. That is part of the reason  
19 the Examiner has revised his hypothesis to sever Cameron's plates (7) from coil (6) and arms (5).  
20

21 **ISSUE 7.** In this Issue 7 Applicant cited detailed patent law authorities showing that the  
22 Examiner's refusal to consider any claim limitations that follow the phrase "adapted to" was  
23 unreasonable and improper. The Examiner explicitly withdraws his contention, concedes this  
24 issue and intentionally omits any discussion of it.  
25

26 **ISSUES 8 AND 8.1.** Applicant pointed out in these issues that all of the Examiner's rejections for  
27 obviousness rely upon a common premise that Cameron's device anticipates Applicant's cheek  
28 pouch anchor. The Examiner's theories of obviousness all combine Cameron with either Seyler  
29 or Rodriguez or Diaz.. Therefore, Applicant pointed out, if Cameron fails to anticipate, then all  
30 obviousness objections must fall with Cameron. The Examiner's Answer does not dispute that all  
31 obviousness objections must fail if Cameron fails to anticipate.  
32

33 **ISSUE 8.2.** Applicant pointed out that Cameron's device would be rendered unsatisfactory

1 for its intended function as a dental retractor if Cameron were subjected to the modifications  
2 necessary to re-configure Cameron to properly operate as the claimed cheek pouch anchor. If a  
3 proposed modification of a prior art device would render that device unsatisfactory for the  
4 intended purposes of that device, then there is no suggestion or motivation to make the proposed  
5 modification. *MPEP § 2143.01, subd. V.*

6 Applicant's point is even more definitive now because the Examiner has conceded that  
7 Cameron's teeth-engaging plates (7) would have to be severed before Cameron's coil (6) and  
8 arms (5) could fit within a user's cheek pouch.

9 Nonetheless, the Examiner's Answer makes an astonishing new argument:

10 "However, the coil spring (6) is a resilient filament, by nature of being a spring, and it does  
11 not need to attach to the teeth in order to retract the user's jaw. The expansive forces of the  
12 coil spring (6) **on the soft tissue of the user's mouth is sufficient to retain the jaw in a**  
13 **retracted position.** Therefore, the Cameron device is not insufficient for the intended  
14 purpose of retracting the user's jaw." Examiner's Answer, p. 20.

15 The Examiner does not cite any prior art whatsoever that any practitioner of ordinary skill in the  
16 art would impose powerful, jaw-opening, retractive forces of Cameron's arms (5) upon the soft  
17 tissues of a user's cheek pouch. Cameron himself teaches, to the contrary, that such retractive  
18 forces should be applied to hard teeth tissues. Why? Because of unacceptable risks of  
19 discomfort, pain, and tissue injury if retractive forces are imposed upon soft tissue, as pointed  
20 out with detailed quotes and explanations above. This is a key instance of the Examiner's  
21 erroneous, silent assumption that interaction of hard devices with soft, living tissue is a  
22 predictable art.

23 The Examiner has failed to discharge his burden to show that Cameron's coil and arms  
24 **necessarily** could **safely and functionally** be used as a retractor against soft cheek pouch  
25 tissues. Thus, the Examiner has not showed that Cameron's coil and arms inherently are  
26 operable against such soft tissues. The Examiner cannot reasonably contend that a retractor  
27 which causes unnecessary pain or injury to soft tissue would be satisfactory for its intended  
28 purposes.

29

30 **ISSUE 9.** The Examiner's Answer concedes typographical error and confirms that the rejection  
31 of claim 45 was for obviousness, not for anticipation.

32

33 **ISSUE 10.** Applicant pointed out that the Examiner's combination of Cameron with Rodriguez

1 did not render obvious Applicant's combination in claim 45 of a fluid conduit with the cheek pouch  
2 anchor. This is because Applicant claims joinder by lacing the filament of the cheek pouch  
3 anchor through one or more holes in the wall of the fluid conduit, which Rodriguez does not  
4 teach.

5 The Examiner's Answer mis-reads Applicant's claim 45 backwards as follows:

6 "Applicant further contends that Rodriguez does not teach joinder of the spring element to the  
7 fluid conduit ***by lacing the fluid conduit through a hole in the spring element.***"

8 What Applicant actually depicts in Figures 2 and 3, and claims in claim 45, is the converse.

9 Applicant laces filament (28) through holes in the conduit wall. The lacing limitation recited in  
10 Applicant's claim 45 does not read upon the configuration described by the Examiner.

11

12 **THE EXAMINER'S PROPOSED INSERTION OF THE TUBE OF RODRIQUEZ THROUGH THE**  
13 **CENTER OF CAMERON'S COIL (6) WOULD NOT OPERATE SATISFACTORILY AS A**  
14 **CHEEK PATH AIRWAY.**

15 The Examiner offers a simplistic hypothesis that he could create an obvious equivalent of  
16 Applicant's claimed lacing structure by inserting the tube of Rodriguez through the central hole in  
17 Cameron's coil (6). Applicant traverses this theory of obviousness as unlikely to be operable in  
18 accord with the limitations of Applicant's claims.

19 Applicant's Specification points out that there are three axes of rotational motion and three  
20 axes of translational motion that must be controlled to achieve stability of a cheek path airway.  
21 Specification [0058] - [0063].

22 Appellant's Opening Brief explained in detail why the Examiner's hypothesis likely would not  
23 work. According to Cameron,

24 "As seen in Fig. 2, the arms [5, 5] while diverging are also bowed so that when the retractor is  
25 positioned in the mouth of the patient the arms and the spring coil will lie substantially flat or  
26 flush against the cheek of the patient." (col. 2: 61 - 66).

27 Therefore, the central opening of Cameron's coil (6) also would lie flat or flush against the cheek  
28 and would not face the user's mouth where it could receive the tube of Rodriguez. A yaw  
29 rotation of Cameron's coil would be necessary to face the coil's central opening toward the user's  
30 mouth before the tube of Rodriguez could pass through that central opening. This yaw rotation  
31 would cause the coil to push out the user's cheek wall in a tent-like manner, which would be  
32 contrary to Cameron's explicit teaching that his coil is to lie flat or flush with the user's cheek wall.  
33 This yaw rotation is not a minor design issue for several reasons.

1 First, Cameron's coil, if so rotated to face the central opening towards the user's mouth,  
2 would impose increased pressure on the user's cheek wall and gums, and thereby pose  
3 unnecessary risk of discomfort, pain and injury to the user's soft tissues.

4 Second, such a yaw rotation would mis-direct the vectors of force delivered by Cameron's coil  
5 and arms, impairing if not defeating the retractive function of Cameron's coil and arms.

6 Third, the Examiner's hypothesis fails to account for and control all six modes of adverse  
7 rotational and translational motion of a cheek path airway. If the tube of Rodriquez were simply  
8 inserted through the central opening of Cameron's coil, there would be no structure to prevent  
9 adverse yaw rotation of the tube itself into the inter occlusal space between the user's upper and  
10 lower teeth, where the tube would interfere with a user's bite and the user's bite might crush the  
11 tube. The Examiner's hypothesis does not provide any structure to prevent adverse translation  
12 of the tube along the user's back-to-front axis by which the tube could slip out of the user's mouth.  
13 These are problems all are identified in Applicant's Specification. The claimed cheek pouch  
14 anchor solves these problems. The Examiner's hypothesis does not.

15 Thus, straightforward analysis shows the Examiner's hypothesis is poorly thought out and  
16 unlikely to be satisfactorily operable as an airway stabilized by a cheek pouch anchor.

17

18 **THE JOINDER MECHANISM RECITED IN CLAIM 45 IS NOVEL.**

19 Applicant's joinder configuration is novel as specifically claimed in claim 45, where the  
20 filament (28) is laced through the fluid conduit. It is novel independently of the novelty of the  
21 cheek pouch anchor. Applicant's lacing configuration is counter-intuitive because the Applicant's  
22 filament passes through and therefore partially obstructs the fluid flow path inside the fluid  
23 conduit.

24 The problems pointed out above with the Examiner's simplistic hypothesis illustrate why  
25 lacing Applicant's resilient filament through the wall of Applicant's fluid conduct both is superior to  
26 insertion of a tube through Cameron's coil and is novel.

27 When Applicant's filament is laced through the fluid conduit, the user's cheek pouch is  
28 pushed out only enough to accommodate the small diameter of the fluid conduit, not the greater  
29 diameter of Cameron's coil (6) and arms (5). Little or no vector component of the expansive  
30 force of Applicant's filament is directed against the user's cheek wall and gums.

31 In Applicant's configuration, the contact between the Applicant's device and the user's inner  
32 cheek wall and gums is distributed broadly along the length of the fluid conduct and resilient  
33 filament, minimizing focal points of force on the user's soft tissues. See Applicant's Fig. 3.

1 Applicant configures the resilient filament (28) with a broad diameter. Figure 3 shows that this  
2 achieves broad distribution of contact between soft tissues and Applicant's device, and also aids  
3 the maintenance of a broad span bridging the user's inter occlusal space as the user's jaws open  
4 and close.

5 By adverse contrast, a yaw rotation of Cameron's coil to enable insertion of the tube of  
6 Rodriguez would force the user's cheek wall out at a focal point in a tent-like manner and would  
7 create a component of vector force that would drive the tips of Cameron's arms against the user's  
8 gums. Such focused pressures from hard devices tend to cause unsatisfactory discomfort, pain,  
9 chafing, gouging, bruising and even penetration of soft tissues. That, of course, is why Cameron  
10 expressly teaches that his coil and arms should lie substantially flat or flush against the user's  
11 cheek wall.

12

13 **BECAUSE NO PARTICULAR MANNER OF JOINDER IS SPECIFIED IN CLAIM 42, IT DOES**  
14 **READ ON A CONVERSE CONFIGURATION SUGGESTED BY THE EXAMINER, WHERE THE**  
15 **FLUID CONDUIT PASSES THROUGH THE RESILIENT FILAMENT.**

16 The novelty of claim 42 lies in the novelty of the cheek pouch anchor and its claimed  
17 capacity to receive attachment to a work piece and remain stable. Unlike claim 45, the novelty in  
18 claim 42 does not lie in any particular mechanism by which the anchor is joined to the fluid  
19 conduit.

20 Applicant's more general joinder limitation in claim 42 does read on the converse  
21 configuration in which the fluid conduit would pass through the resilient filament, as suggested by  
22 the Examiner' mis-reading of claim 45.

23 Although not depicted in Applicant's drawings or specifically described in the Specification,  
24 one can envision splitting Applicant's resilient filament (28) and passing the fluid conduit through  
25 the split filament, or else passing one loop of Applicant's filament on one side of the fluid conduit  
26 and another loop on the other side of the fluid conduit. Applicant's claim 42 does read on both of  
27 those joinder configurations.

28

29 **ISSUES 11, 11.1, 11.2, AND 11.3.** With respect to claims 36 and 39, the Examiner rejected  
30 Applicant's claim to a cheek pouch anchor with an additional claim to a user-adjustability feature.  
31 If Cameron does not anticipate the cheek pouch anchor, then Applicant's claimed combination of  
32 the anchor with an additional adjustability feature is novel because the cheek pouch anchor itself  
33 is novel.

1 The Examiner based rejection of claims 36 and 39 upon a combination of Cameron's dental  
2 retractor with the automotive spring coil of Seyler.

3 In his Answer on Issue 11 the Examiner misstates Applicant's argument as follows:

4 "Appellant claims it would not have been obvious to modify the Cameron coil spring with  
5 multiple loops, ***as taught by Seyler, for adjustment purposes.***"

6 Applicant actually argues that Seyler neither teaches nor suggests how to make spring coils  
7 adjustable in any manner. Seyler teaches how to increase the forcefulness of a spring by  
8 increasing the number of coils. Seyler is simply irrelevant to the topic of making a spring  
9 adjustable by the user.

10 The Examiner's Answer does not argue that Seyler suggests Applicant's particular mode of  
11 adjustment, nor does the Examiner argue that Seyler provides any motivation to make Cameron's  
12 dental retractor user-adjustable.

13 The Examiner's Argument concerning adjustability seems to be founded in the Examiner's  
14 premise that adjusting the forcefulness of a spring is a predictable art because the variables  
15 controlling a spring's forcefulness are calculable according to a known formula (which Applicant  
16 infers is a reference to Hooke's formula).

17 Here again, however, the Examiner silently, erroneously presumes that the interaction of a  
18 spring with living soft tissue is a predictable art. Again, the Examiner cites no evidence nor any  
19 prior art that adapting springs to living soft tissue is a predictable art.

20 Where prior art recognizes both a need for adjustability and mechanisms to achieve  
21 adjustment, substitution of one known means of adjustment for another known means of  
22 adjustment is not patentable. *MPEP 2144.04, subdiv. V.D.*, citing *In re Stevens*, 212 F.2d 197,  
23 101 USPQ 284 (CCPA 1954). But here again the Examiner has failed to show the essential  
24 factual foundation for application of this principle.

25 The Examiner has not showed any prior art that teaches how to configure a cheek pouch  
26 anchor that fits within a user's cheek pouch and also maintains a span bridging across a user's  
27 inter occlusal space, with no attachment to a user's teeth. It necessarily follows that the  
28 Examiner has not showed either (A) a need recognized in the prior art for adjustment of the novel  
29 cheek pouch anchor, nor (B) how to make such a novel device adjustable, while (C) making such  
30 adjustability compatible with living soft tissue of the user's cheek pouch.

31 The Examiner has not made out *prima facie* obviousness of Applicant's claims to the  
32 adjustability features of Applicant's cheek pouch anchor.

33

1 As discussed above, the Examiner argues that adjustment of springs is a predictable art. But  
2 then the Examiner makes an unfounded logical leap which presumes silently and incorrectly that  
3 adapting a spring **to operate with soft tissue in a user's cheek pouch** is a predictable art. Not  
4 so. The Examiner fails to discharge his burden to cite prior art, such as a computer program, or  
5 other evidence, that teaches how to calculate or predict the response of living cheek pouch tissue  
6 to an indwelling resilient filament. Here again, the Examiner can rely on such a premise if and  
7 only if that premise is explicitly stated and also is capable of instant and unquestionable  
8 demonstration as being well known. *MPEP 2144.03*.

9

10 **ISSUE 11.4.** The Examiner has withdrawn any reliance on Liou and indicates, correctly, that  
11 this issue is moot.

12

13 **ISSUE 12.** Applicant points out that if Cameron does not anticipate Applicant's claimed cheek  
14 pouch anchor, then the combination of Cameron with Diaz does not render obvious a novel cheek  
15 pouch anchor that is improved with capacity to carry and release a substance. The Examiner  
16 does not disagree with this proposition, but only re-iterates the Examiner's assertion that  
17 Cameron does anticipate Applicant's claimed cheek pouch anchor.

18 Applicant does not claim that a capacity to carry and release a substance is novel,  
19 independently of the novelty of the cheek pouch anchor.

20

21 **ISSUES 13 and 13.1.** The Examiner argues that use of the term "improved" renders entire  
22 claims indefinite because "improved" is used in the preambles of dependent claims 37 and 44  
23 before the transition words "wherein" and "further comprising, respectively.

24 Applicant uses the word "improved" in the preamble to introduce antecedents later used in  
25 the body of the claims.

26 The Examiner cites no authority for the proposition that use of the word "improved" in a  
27 preamble renders an entire claim indefinite. Applicant is not aware of any authority.

28 The Examiner states

29 "Further, the claim does not include a positive recitation of a method step, but merely  
30 'improved to dispense'."

31 Claims 37 and 44 are apparatus claims, not method claims. As dependent claims they merely  
32 need to add at least one structural limitation to the independent claim from which they depend.  
33 Both claims recite one item of additional structure. Nothing more is required.



1 **ISSUE 14.** Applicant's Opening Brief pointed out that the Examiner's Answer fails to construe  
2 each claim as a whole and to consider each and all claim limitations.

3 The Examiner now has acknowledged that Cameron's teeth-engaging plates (7) have to be  
4 severed to enable Cameron's coil and arms to meet the claim limitation "fit within a user's cheek  
5 pouch". Yet the Examiner's new theory consistently omits to demonstrate how Applicant's claim  
6 limitation "maintain a span bridging across a user's inter occlusal space and lip opening as a  
7 user's jaws and lips open and close" reads on Cameron's coil and arms when severed from teeth-  
8 engaging plates (7).

9 Plainly, Applicant's two claim limitations work interactively, that is, the claimed cheek pouch  
10 anchor both must "fit within a user's cheek pouch" and also must "maintain a span bridging  
11 across a user's inter occlusal space," work interactively. Cameron's device simply cannot do both  
12 and therefore does not anticipate Applicant's claimed cheek pouch anchor. The Examiner has  
13 failed to cite any single prior art device that can satisfy both claim limitations.

14 Moreover, the Examiner throughout has failed to appreciate and include in his analyses the  
15 critical importance of user comfort and safety when making devices that must operate in contact  
16 with the tender soft tissues of the user's cheek pouch.

17

18 **ISSUE 15.** Claim 46 is stated in the format of means for performing a function. As such, it is to  
19 be construed to correspond to the disclosures in the specification and drawings.

20 First, if Cameron fails to anticipate the claimed cheek pouch anchor, then this entire claim is  
21 novel.

22 Second, Rodriquez does not teach or suggest how to join a fluid conduit with a cheek pouch  
23 anchor. Here again the Examiner fails to consider the critical importance of configuring a device  
24 that will operate within a cheek pouch without causing undue discomfort or tissue injury.

25 Applicant has explained in detail why the Examiner's idea, to insert a fluid conduit through the  
26 hole in Cameron's coil spring, would be unsatisfactory. The Examiner's hypothesis would require  
27 rotation of Cameron's coil and arms so they no longer would "lie substantially snugly against the  
28 cheek of the patient" as Cameron's specification requires. Cameron, p. 2, col 4: 40-45 and col. 2:  
29 52-56. If Cameron's coil were so rotated, to expose the coil's opening, that would impose  
30 focused, localized force against a small section of the cheek wall, likely causing discomfort and  
31 chafing if not bruising, especially as the user's jaws open and close. That would not be a  
32 satisfactory combination.

33 Additionally, rotation of Cameron's coil to expose the hole in the coil to enable insertion of a

1 fluid conduit would mis-align the vectors of the forces imparted by the coil.

2 In any event, the Examiner here has not just rearranged the parts of Cameron, he has

3 severed teeth-engaging plates (7) that are essential to Cameron's intended retraction function.

4 Similarly, the Examiner's proposed insertion of the fluid conduit of Rodriguez into the hole in the

5 coil of Cameron is not just routine re-arranging of parts. It conflicts with Cameron's specification

6 and it would impair the operability of Cameron.

7

8 **CONCLUSION**

9 All rejections and objections should be overruled and all pending claims should be allowed.

10 After seven years, three searches, and two appeals, the Examiner should not be granted any

11 further opportunity for further search, or further object to or reject claims.

12

13 RESPECTFULLY SUBMITTED

14 

June 2, 2010.

16 LOWELL R. WEDEMEYER

17 APPELLANT